

FOUR COLLAGES COMPOSED OF CLEAR PLASTIC,
TISSUE PAPER AND PAINT

by

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TISSUE PAPER AND PAINT

A Field Report
Presented to
The Graduate Division
Drake University

In Partial Fulfillment
of the Requirements for the Degree
Master of Fine Arts

by
Robert Lindsley Arnold
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CHAPTER I

THE PURPOSE

The purpose of this project was to produce four successful collages in which a three dimensional effect was achieved through the use of colored tissue paper and paint on clear plastic.

This method will be compared to those methods employed in the production of leaded stained glass, stained glass embedded in concrete, the Frengosi method of simulated stained glass, and the paintings on glass of the artist, Irene Rice Pereira.

For centuries, leaded stained glass was a means of expression, achieving beauty through the use of colored glass and reflected light which created the illusion of movement in space. In the middle of the twentieth century, a new method of setting stained glass in concrete was developed, as was a way of simulating stained glass, known as the Frengosi Method.

Artists, over the years, have had a great interest in light and space, but none more than Irene Rice Pereira, who, in the nineteen forties, began painting on layers of glass to achieve the light and spatial relationships which characterize her work.

This same interest in light and space has been the motivating force for the four collages of this project.

The research for this project was accomplished by visiting the Union Church of Pocantico Hills, Pocantico Hills, New York, to study and report on the leaded stained glass window by Marc Chagall; by visiting the First Presbyterian Church of Stamford, Connecticut to investigate the stained glass set in concrete, herein referred to as concrete stained glass; by contacting the artist, I. Rice Pereira and researching her work at the library of the Metropolitan Museum of Art, New York, New York, and finally by obtaining various literary sources on the types of stained glass.

In the second chapter of this project, leaded, concrete and simulated stained glass, the paintings of I. Rice Pereira and the four original collages are presented in a comprehensive technical and aesthetic form with reference to the early history of leaded stained glass.

CHAPTER II

THE STUDY

I. EARLY LEADED STAINED GLASS

Light, in the Middle Ages, was thought of as the divine cosmic ray which transformed everything it shown upon. As a result of this belief, the stained glass window had a very special significance, not only as the divine light, but as a way of bringing the scriptures much closer to reality.¹

The early work, which had its origins in Constantinople, was known as cloisonné (enameling). It bears a striking resemblance to the mosaic form of stained glass in which different areas of colored tile were separated by strips of metal, soldered edgewise to the groundwork, much as the pieces of glass are separated in a window.²

This enameling of glass was developed in the Eighth and following centuries, and was brought to Venice by Mediterranean traders. The process was introduced into France during the Tenth Century by a colony of Venetians.³

In order to produce stained glass windows during their early development, the two essentials of flexible lead armatures and weather-resistant paint were necessary.

¹John Baker, English Stained Glass (New York: H. N. Abrams, Inc., 1960), p. 8.

²Ibid., p. 20.

³Ibid., p. 21.

The paint used was a mixture of iron oxide and low melting point glass as a flux.¹

The methods employed in the manufacture of glass were based on *Diversarum Artium Schedula*, a book written by the monk, Theophilus, in the Tenth Century.²

Early medieval glass was produced by two methods known as "Muff" and "Crown".

The Muff craftsman began by gathering molten glass on the end of a blowing pipe; then it was blown into a sphere, being manipulated by swinging and twisting it into a long sausage shaped balloon. The top and bottom were then opened to form a cylinder which was split lengthwise with a hot iron.³

The glass was placed in a cooling chamber known as an annealing oven where it was allowed to cool and flatten, forming a sheet of uneven thickness. These sheets were about fifteen by twenty four inches, or about the same size as those produced today.⁴

The Crown method consisted of forming a small bubble on the end of the blowing pipe and then transferring it to an iron rod. At this time a hole was made in the end of the bubble. By spinning and whirling the rod in his hands, the craftsman opened the bubble into a circular disc some

¹Ibid.

²Ibid.

³Ibid.

⁴Ibid.

twenty four inches in diameter, thick in the center and thinner around the edges.¹

To detect which method of manufacture was employed in making the glass, one should determine the pattern formed by the small bubbles within the glass. When the pattern was circular, the glass was Crown. When the pattern was parallel, the glass was Muff. Two methods known as Pot-metal and Flash-ed were employed in the manufacture of colored glass. Pot-metal glass was colored throughout, whereas flashed glass had a colored coat on one side only. Originally, the flashed glass was used to make a more translucent ruby glass, since pot-metal glass would have been much too dark. Later, other methods were used.²

The glass was colored by adding metallic salts to the materials used in making white glass, which, due to sand impurity, had a green tinge when these metallic salts were omitted.

Various metallic oxides such as copper for creating ruby or red; cobalt for blue; manganese for purple, and iron for green and yellow, were used as the coloring agents for the glass. During the Fourteenth Century, silver salt came into use as a coloring agent, making a wide range of color from yellow to orange possible in one piece of glass.⁴

¹Ibid., p. 22.

³Ibid.

²Ibid.

⁴Ibid., p. 87.

Early sources of design. One realization concerning early stained glass windows was that the window was not only decorative, but was also a media for moral and religious teachings to the largely illiterate masses.¹

The variety of subject matter in early windows was limited mostly to religious themes. With the advent of the Fourteenth Century, heraldry became an important part of the stained glass window in England. Heraldry was the method of describing a person's identity by the use of a shield or Coat of Arms as they are sometimes called today. The shield identified the family as our surnames identify us. The shield was positioned in the center of the window with white or light colored glass surrounding it. A later development in heraldic design was brought about by the desire of the donor to have himself pictured within the window. Until the early Sixteenth Century, heraldry was the dominant design in stained glass.²

Religious subject matter was taken mainly from the Vulgate, the version of the Bible still in use by the Roman Catholic Church today, but during the late Gothic period, three other books: the Biblia Panperum, Speculum Humanae Salvatorius and Legenda Aurea, were used. The latter book

¹Ibid., p. 27.

²Edward Liddall Armitage, Stained Glass (Newton, Massachusetts: C. T. Branford Company, 1959), p. 94.

contains accounts of the lives of the saints.¹

Two types of design were available to the designer of a stained glass window: one, a pattern of color on a white quarry background or, two, a full color treatment, which consists of placing lighter or contrasting colors on a dark background.²

Grisaille. Many windows use what was known as Grisaille (which literally means to paint grey) which employed a crosshatched or continuous patterned background often with a leaf pattern similar to seaweed. A problem in planning a Grisaille window was that no specific subject was generally used.³

The architectural style of the building for which the stained glass was being designed must be a part of the consideration in the design.⁴

The size of the building should determine the proportion of the window to complement the structure. This was also true of the relation of one window to another.

Color. In many cases, the subject would determine the color and tint of the stained glass to be used. Placement of one color next to another must be done with care, as

¹Baker, op. cit., p. 28.

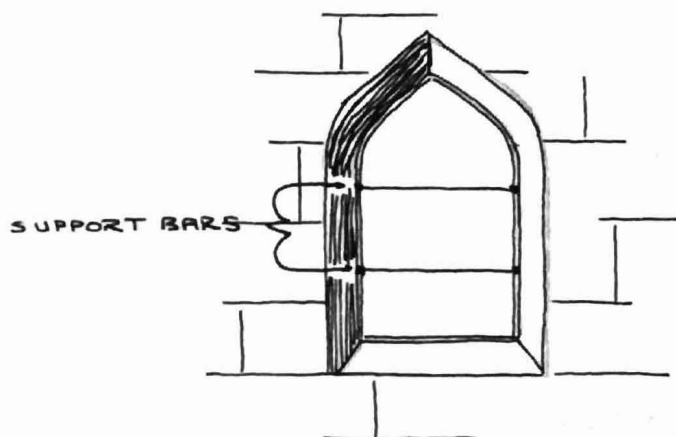
²Armitage, op. cit., p. 86.

³Ibid., p. 91.

⁴Ibid., p. 83.

from a distance two colors, such as red and blue merging into purple can change the entire effect of a particular area.¹

Sketch. The first actual design step in producing the window was the sketch, which was achieved through drawing the outline of the window on a good quality paper or board. The position of the horizontal support bars should be drawn



in to match structural requirements with the overall sketch drawn to a scale of one inch to a foot.²

Once the preceding basics had been completed, it was then decided if there would be a white border around the edge of the window. There should be a white border with a full color window because the window will stand out from the structure, not blend into it.³

After the border decision has been made, the sketch should be done in a detailed enough manner to obtain the desired effect of the finished window.

¹Ibid., p. 102.

²Ibid., pp. 113-115.

³Ibid., p. 115.

Marc Chagall, in his Simeon window of the Jerusalem Window group, used pencil, pen and India ink in his first and second sketches.¹ (see Figures 1 and 2)

The first color sketch was produced in watercolor; the next in collage and ink, with the final in gouache and collage. Chagall used a great deal of freedom in these sketches, never losing sight of the movement he wanted to obtain in the completed window.² (see Figures 3, 4 and 5)

Cartooning. A template must be made of the actual size of the window. Once the template was completed, it was placed upon a piece of cartoon paper which was cut to obtain the identical size of the template. Once the sketch had been enlarged on the cartoon paper, allowances were made for the support bars. The coloring was now begun.³

Assuming that the designer would paint the window glass in the final window, a completely finished color cartoon was not necessary. If the painting was to be done by another, every detail should be finished so as to avoid any questions on color and design.⁴

The outline. With the cartoon completed, the outline from which the individual pieces of glass would be cut,

¹Jean Laymarie, Jerusalem Windows by Chagall (New York: Braziller, Inc., 1962), p. 31.

²Ibid.

³Armitage, op. cit., p. 119.

⁴Ibid.



Figure 1. A photograph of the preliminary pencil, pen and India ink sketch by Marc Chagall.



Figure 2. A photograph of the subsequent pencil, pen and India ink sketch by Marc Chagall.



Figure 3. A photograph of a preliminary color sketch
by Marc Chagall.



Figure 4. A photograph of the final color sketch by Marc Chagall.



Figure 5. A photograph of the completed Simeon window by Marc Chagall.

was made.¹

Transparent tracing linen was used, rather than regular tracing paper because it was not as fragile. First the tracing linen was placed upon the cartoon and then lines were drawn on the linen where the leading lines of the cartoon exist. These lines determined where the glass would be cut.²

Cutting. The method of cutting glass started with the "Dividing" iron. The following description by John Baker is excellent:

"Heat in the fire, the dividing iron, which should be thin in every part, but thicker in the extremity. When it is red hot in the thicker part, apply it to the glass you wish to divide, and soon the beginning of a crack will appear. If the glass should be hard, moisten it with saliva with your finger in the place where you had applied the iron. As soon as it is cracked, draw the iron in the direction in which you wish to divide the glass, and a crack will follow the iron. All the pieces having been thus divided, take the grooving which should be a palm long, bent back at each end, with which you can smooth and fit together all the pieces, each in its place."

Aciding. Aciding was required if there was such a small area of glass that to lead it would have made it impossible to see.⁴

¹Ibid., p. 123.

²Ibid.

³Baker, op. cit., pp. 23, 24.

⁴Armitage, op. cit., p. 132.

Heraldry was the most obvious example, since in the shield some of the colored areas were small indeed. Take for example, golden lions surrounded by ruby glass within a shield. The original glass was all red. The artist used a black Brunswick enamel to paint out the area that he did not want to be exposed to the acid.¹

After the paint was completely dry, hydrochloric acid was poured over the glass until it was covered by a greyish film. This film was removed by cotton or wool, used as a swab, in order to allow the acid to work. Once the acid had removed the ruby color, the glass was washed in cold water. Depending upon how long the glass was left in the acid, a shade from yellow gold to white would remain.²

The painted area was scraped off with a knife.³

Tracing and painting. As soon as the glass had been cleaned with a degreasing agent, the pieces of glass were laid on the cartoon, from which the design would be traced on the glass. This is known as tracing and described the line work as distinct from the shading used later on in the painting process.⁴

The solution used for tracing was a thinned down version of the regular paint.⁵

¹Ibid.

²Ibid.

³Ibid.

⁴Baker, op. cit., p. 24.

⁵Ibid.

This paint was a mixture of copper or iron oxide and finely pulverized soft glass to act as a flux. In order to darken the mixture, small bits of iron were added. Once the mixture was finely ground, wine was added to liquify it, making it ready for use.¹

A clear glass form or easel was placed over the cartoon where the individual pieces of glass were laid with spaces between them to allow for the leading lines. Each piece was adhered to the large glass form with beeswax or some other easily removable compound. Lead lines were then painted on the reverse side of the glass easel to approximate the finished window.²

The next stage was the actual painting where the paint was mixed and what was known as a matt was applied to the glass. This is quite similar to drawing with white chalk or charcoal on brown paper. One by one, the pieces of glass were covered with an even wash of paint until all the pieces were finished, at which time they were removed from the easel, placed on firing trays and fired in a kiln. The painting and firing process was repeated again after the glass had cooled. Usually only two paintings and firings are necessary.³

Firing. Before the firing of any glass, the hardness

¹Ibid.

²Armitage, op. cit., p. 138.

³Ibid., p. 139.

of the glass must be known. The harder the glass, the closer to the heat the glass should be placed. The metal firing trays in which the glass was placed were filled with de-moisturized plaster of Paris, hardened to a smooth surface.¹

The glass was placed in a pre-heating box before it was placed in the kiln for firing. Firing time was usually twenty minutes or until the glass was red hot.²

After firing, the glass was removed from the kiln and placed in an annealing chamber to cool for at least ten hours. The purpose of the annealing chamber was to assure proper cooling so that the glass would not crack or bubble. The painting and firing processes were again repeated to assure lasting color and design within the glass.³

Leading and cementing. To assure proper leading and cementing, the outline was laid on the glazing bench and secured with drawing pins, otherwise known as cobbler's nails. Next wood strips about one and one half inches wide were set and nailed along the base and side of the outline five sixteenths of an inch away from the outside edge of the outline to allow for the leading of the glass.⁴

During the early history of the stained glass window, the lead was poured into a form and either hollowed out by

¹Ibid.

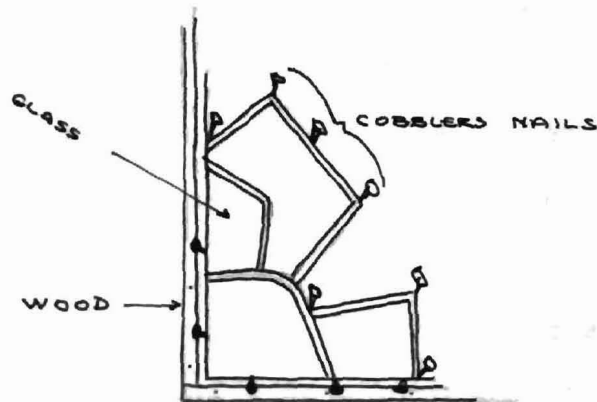
³Ibid., p. 142.

²Ibid., p. 140.

⁴Ibid., p. 145.

hand or a reed was inserted immediately after pouring to make a space into which the glass would be inserted. In the assembly of the window, these lead pieces were, and still are, approximately one half inch in width.¹

The first piece of lead was worked around the corner section of glass. Nails were then tapped in around the sides to hold the glass into place.² This procedure continued



with each piece of glass until the window or light (as it is sometimes referred to) was completed. The fewer cuts and solderings of the lead that were made, the more beauty and strength the window possessed.³

Once the lead was cleaned around each piece of glass by scraping, the window was ready to be soldered together.

In the cementing process where the glass was cemented into the lead, the glue was composed of five parts of powdered

¹Ibid., p. 146.

²Ibid.

³Ibid.

whiting, four parts of fine plaster of Paris, two parts of driers, one part of lamp black and one half of a part of red lead. This was mixed and boiled linseed oil was then added. Once the mixture was thinned to a porridge-like consistency, it was spread into the crevices between the lead and glass and allowed to dry for four or five days. Upon completion of the window, it was installed.¹

Since the technical aspects of the leaded stained glass windows have been explained, one can have a greater understanding of the experiences of Marc Chagall in the creation of the Jerusalem Windows and the John D. Rockefeller Memorial Window.

Herein are photographs of the preliminary sketches and drawings for the Simeon Window of the Jerusalem Window group and the completed Simeon and Rockefeller memorial windows.

The Rockefeller Memorial Window, which is set in the rear wall of the Union Church of Pocantico Hills in New York state is a marvelous example, not only of Chagall's creativity, but of what is and can be done in leaded stained glass today.

The story of the window's creation was one of a grateful congregation, and a talented, inspired artist, who,

¹Ibid., p. 149.

after having been asked by Mr. and Mrs. David Rockefeller to do the window in 1961, began sketches of the Good Samaritan theme, chosen by the representatives of the congregation as an appropriate theme to describe Mr. Rockefeller's life-long creed of service to God and mankind.¹

Photographs and dimensions of the church were sent to Chagall so that he would have a better understanding of the advantages and limitations in the creation of the window which would measure fifteen feet at the apex and be nine feet wide.²

In April of Nineteen Sixty Three, Mr. and Mrs. Chagall came to Pocantico Hills, bringing with them the preliminary sketches for the window.³

Upon returning to his studio in Vence, France, he completed the cartoons and final sketches.⁴

Atelier Jacques Simon in Reims was selected to make the glass and the window under the close supervision of Chagall with the help of Charles Marq, the head of the studio, who had worked with Chagall to produce the inspiring Jerusalem Windows. Once the window had been formed, Chagall painted the glass depicting the Good Samaritan comforting a traveler and taking an injured man into an inn, the Angel of Goodness

¹Union Church of Pocantico Hills "The Abby Aldrich Rockefeller and The John D. Rockefeller Memorial Windows", (Pocantico Hills, New York: Union Church, 1965), p. 4.

²Ibid., p. 5.

³Ibid., p. 4.

⁴Ibid.

at the Descent from the Cross, and his figures of animals, birds and flowers.¹

The window was completed in August of Nineteen Sixty Four. It was then dismantled for shipment to Pocantico Hills where Charles Marq supervised the installation of the window in the church, even though Chagall was in Pocantico Hills at the time.²

The installation was completed by the middle of September with Chagall having the satisfaction of seeing it in its proper setting and showing to full advantage the vibrant colors for which he is famous.³

Many people have remarked on the beauty of the window, but no heresay can take the place of seeing the window firsthand and being inspired by the color and imagination that are a part of the entire window. (see Figure 6)

II. CONCRETE STAINED GLASS

Now, in the Twentieth Century, a century of great advances, the art of stained glass has been revived, as exemplified by Chagall's windows and by the new method of setting thick slab glass in concrete.

The advantages of this method include the elimination of painting, leading and cementing, thus reducing the cost.

¹Ibid., p. 5.

²Ibid.

³Ibid.



Figure 6. A photograph of the John D. Rockefeller Memorial Window by Marc Chagall.

As in leaded stained glass, the primary step was one of making a sketch of the whole window or panel scaled one inch to the foot. Each panel was composed of sections usually not any larger than about two feet, six inches square.¹

A present day example is the First Presbyterian Church of Stamford, Connecticut in which sections were fitted into a panel of which there were one hundred and fifty two including those of solid concrete. The height of the panels was sixty feet. Their combined length of two hundred and thirty four feet made this a magnificently large work of stained glass.²

The architect, Wallace K. Harrison, who designed the church, also designed the windows. The designs, and templates of their size, were sent to France where Gabriel Loire of Chartres was commissioned to do the windows. Loire used eighty six different shades of inch thick glass, deliberately chipped to obtain a prismatic effect when set in the concrete of the finished window. All told, there were twenty thousand pieces of the inch thick glass.³

Before setting the glass in concrete, the cartoon and two outlines were made first. One outline, on thick

¹Armitage, op. cit., p. 157.

²First Presbyterian Church, "Information Sheet", (Stamford, Connecticut: First Presbyterian Church, 1964), p. 1.

³Ibid.

paper or linen, was used for the cutting of the glass. The other, on thin paper was used for placing the cut glass and pouring the cement around the glass. Thin paper was used for the second template because it produced fewer and smaller wrinkles when the concrete was poured upon it.¹

A wooden frame, which could later be taken apart, was made to contain the concrete and form the interlocking edges of the section.²

The thick liquid concrete was made of one part cement to three parts of very fine sand. It was best to do the complete pouring operation on a vibrating table to make certain the cement fitted into all of the crevices.³

The wooden frame was removed after three days of drying. At this time, any cement that had covered the glass was scraped off. The panel was left to dry three weeks. Once it was dry the outside surface was painted with a waterproof solution.⁴

The completed sections in the Stamford First Presbyterian Church form three abstract designs. One depicts the Crucifixion; another, the Resurrection; and the third, the teachings of Christ.⁵

The effect on going from the dimly lit narthex where

¹Armitage, op. cit., p. 158.

²Ibid., p. 160.

³Ibid.

⁴Ibid.

⁵Presbyterian Church, op. cit., p. 6.

the deep blues of the window of Christ's teachings gave a feeling of reverence to the viewer, to the sanctuary was a revelation of God's Glory. The entire nave was like a huge multi-colored jewel due to the effect of the stained glass which extended from the floor to the ceiling, completely encircling the people below. In this sanctuary, the overpowering beauty of the stained glass helped one realize the worth of man. (See Figure 7)

The most noticeable difference between the leaded and concrete types of stained glass is due to the thickness of the glass set in the concrete compared to the thinner glass in a leaded window. The prismatic qualities obtained from the thick, chipped glass as seen in the Stamford church made each color shine like the sun on a bright day. Even though leaded glass is beautiful and can be a story telling window, however, the vibrant qualities of the concrete set glass are unparalleled in any leaded stained glass window.

III. SIMULATED STAINED GLASS

In addition to the two types of stained glass previously discussed, another, much less expensive method has been used by artists. This method results in what is called Frengosi simulated stained glass.¹

¹Ruth Case Almy, Simulated Stained Glass for Amateurs, (New York: Harper and Brothers, 1949), p. 1.

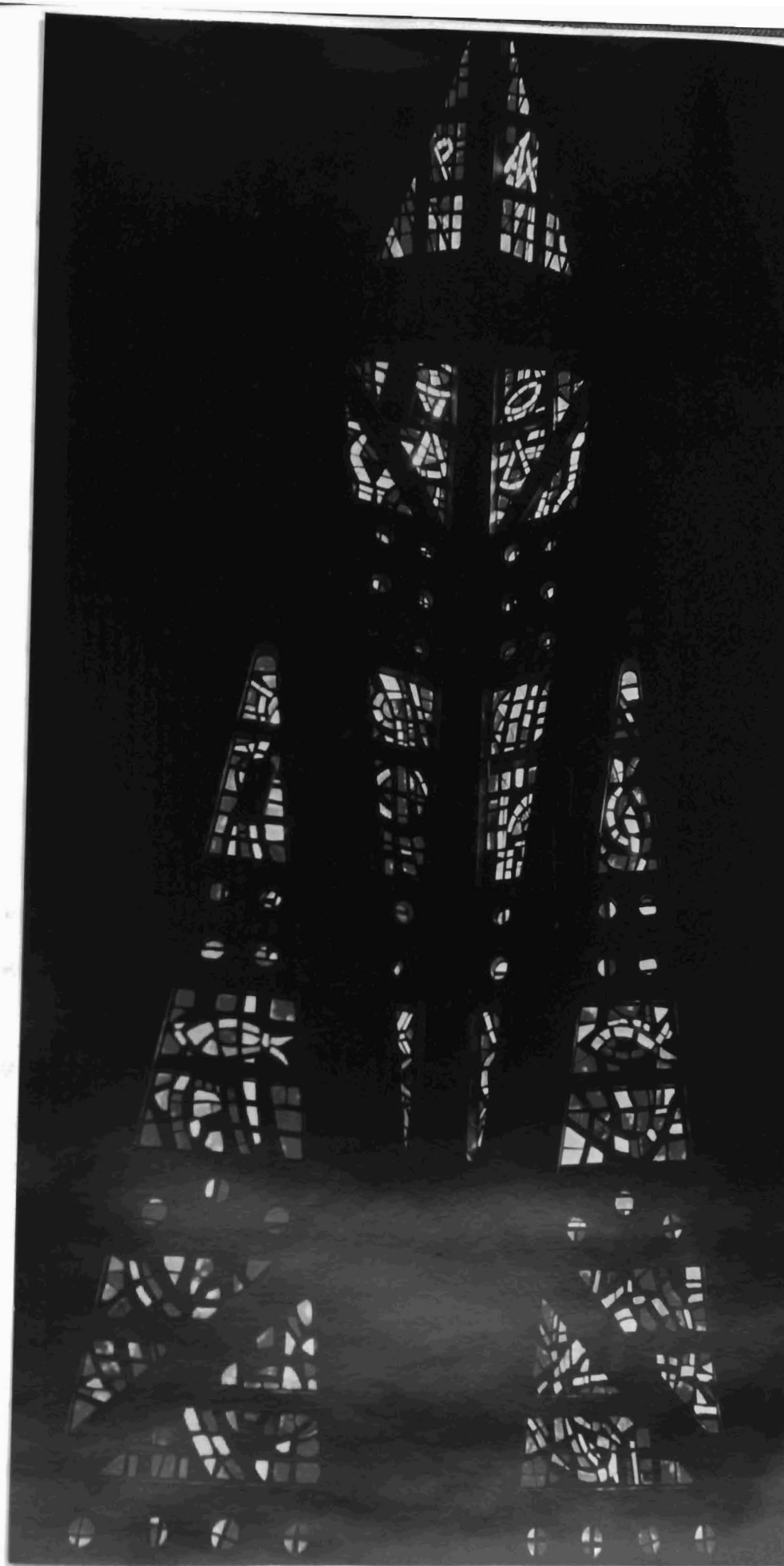


Figure 7. A photograph of the Narthex window in the First Presbyterian Church, Stamford, Connecticut.

Webster's definition of the verb to simulate is "to assume or have the mere appearance of, without reality". This definition perfectly describes the Frengosi method.¹

Due to its hammered appearance, the most attractive glass used in this method is Velvex Glass, manufactured by the Blue Ridge Glass Company and distributed by Libby Owens Glass Co.²

The approved paint used in this method was Prang Dek-All with Dek-All Transparent Mix, but where not available, tube oil colors have been used. With Dek-All paints drying time has been speeded up by use of a home oven, following the directions on the paint container.³

The design process of sketches and cartoons recommended is about the same as with leaded and concrete stained glass.⁴

With the cartoon adhered to the reverse side of the Velvex glass, painting begins and with one exception the paint applied in the same manner as in the painting of leaded glass. However, only one coat of paint need be applied as compared with two applications for the leaded glass.⁵

The simulation of leading lines was accomplished by a stencil of black building paper, also known as tar paper,

¹Webster, Webster's New World Dictionary (New York: World Publishing Company, 1957), p. 1360.

²Almy, op. cit., pp. 12, 13.

³Ibid.

⁴Ibid.

⁵Ibid.

and sheathing paper glued to the glass. Black polymer color has also been used providing the glass has been completely cooled after removing it from the oven.¹

IV. PAINTINGS OF I. RICE PEREIRA

A close relationship exists between leaded glass, concrete glass, simulated glass, the paintings of Irene Rice Pereira, who paints on glass, and this project which consists of tissue paper and paint on clear plastic.

Miss Pereira's work can be best described, in part, by a romantic, mystic feeling for light she has held since childhood. Her knowledge of abstract art and modern physics and mathematics has enabled Miss Pereira to paint light and space in a way that no other artist has yet been able to achieve.²

According to John I. H. Baur, "light is the element that gives human meaning to the vast reaches of the four dimensional world in which Miss Pereira's abstractions are charted."³

On her way to Europe in 1931, she sketched machine forms which, through further development, led to the present abstractions on glass which she started painting in the early

¹Ibid.

²John I. H. Baur, Loren MacIver, I. Rice Pereira, (New York: Whitney Museum of American Art by Macmillan, 1953), p. 29.

³Ibid., p. 56.

Nineteen Forties.¹

According to Miss Pereira's geometric, scientific and esthetic theory, she "seeks to find plastic equivalents for the revolutionary discoveries in mathematics, physics, biochemistry and radio-activity."² She does not state how this goal is to be achieved. It could be an impossible goal!

It is difficult to describe the areas of space in a Pereira painting since they are so ambiguous, but nevertheless these same areas are a great part of the moving force that make her paintings the dynamic works that they are.³

The principal shapes in her paintings are the rectangle, trapezoid and parallelogram. These shapes are painted on several sheets of glass, usually three or four, in varying positions. Once the painting was complete, the layers of glass were placed, one over another, to achieve the final result of her miraculous spacial relationships.⁴

According to Baur, the "spatial relationships can change abruptly before one's eyes, much as a hidden image appears for a moment from a hill and then is lost again. This treatment of space imparts a romantic tension to her otherwise concrete forms or images."⁵

Miss Pereira's paintings are never planned in advance,

¹Ibid., p. 39.

²Ibid., p. 39.

³Ibid., p. 39.

⁴Ibid., p. 56.

⁵Ibid.

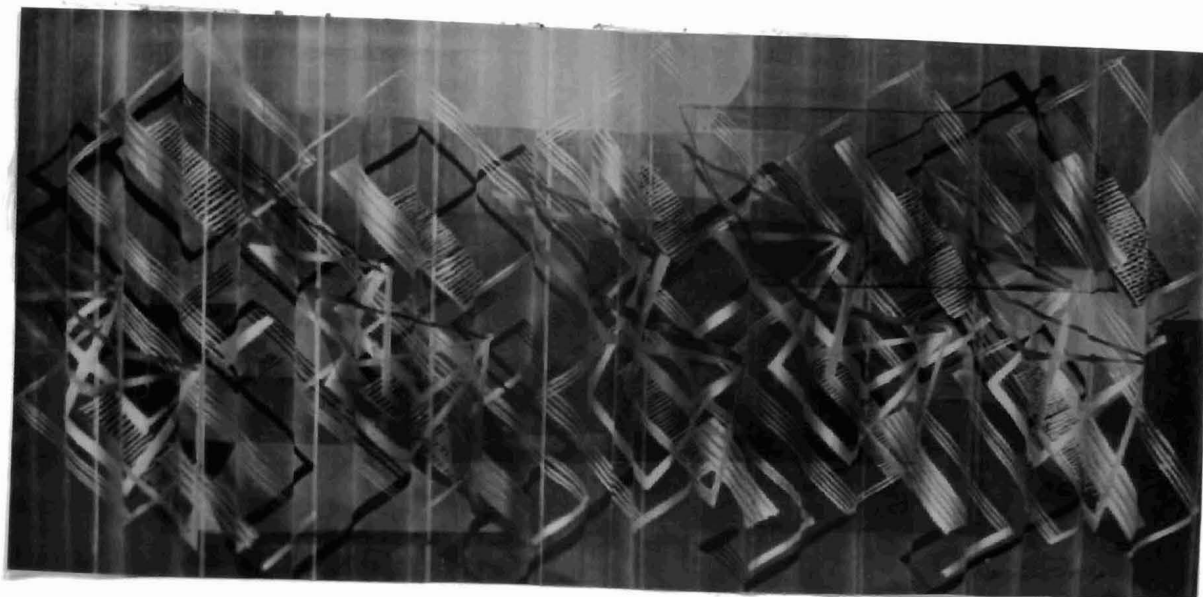


Figure 8. A painting by Irene Rice Pereira.

but emerge on the canvas as her inner feelings dictate.¹

This method of instant painting, as it shall be called, allows Miss Pereira to paint in a fresh, unhindered manner without cumbersome drawings or photographs to follow. Even though it is the artist's prerogative to change his work or his mind at will, many artists, for some unexplained reason, find they must continue a work from the preliminary sketches, never considering a change.

Her paintings can be compared with stained glass mainly because of the painting on glass. There the similarity ends. Miss Pereira's work hints at present day Op Art due to the amazing and many times ambiguous spatial relationships within her works.

V. COLLAGE ON PLASTIC

The creative aim of this project was to achieve an esthetically coherent three dimensional arrangement of clear plastic, colored tissue paper and paint in the fabrication of four collages. These arrangements of one colored shape upon another or one color placed next to another gave the appearance of movement through the interplay of colors. The light, colors and depth lend to the three dimensional effect of the collages.

The colored shapes and painted areas advanced or

¹Ibid., p. 62.

receded depending upon their placement and, in some cases, depending upon the viewer. The reason for using non-objective designs was that each time the works were viewed a different interpretation by the viewer might evolve.

The materials for these collages, aside from the sketching materials, were colored tissue paper, Liquitex Polymer paint and clear plastic, the thickness of a pane of window glass, which was decided upon rather than glass because of its greater adaptability and superior refractive values. The use of either glass or clear plastic allows the artist to work on both sides as compared to an opaque surface such as illustration board or canvas.

In order to affix the tissue to the plastic, Liquitex Polymer Medium was used because this material dries rapidly, evenly and clear. In addition, this medium was used as a final varnish once the collages were completed.

The Liquitex Polymer colors in the glass containers were applied to the dried tissue to enhance the overall movement and interest within the work through the opaque coloring and line painting.

The actual process of creating the four collages was begun with a group of approximately fifteen sketches of which four were chosen for execution.

The color selection was chosen through a trial of one color next to or superimposed upon another.

Having selected the sketches and the colors, the first step in the production of the collage was to clean the plastic with a soft cloth, using a mild soap and warm water solution. (see Figures 9, 10, 11 and 12). This had to be done before the tissue could be cemented to the plastic.

Next the various shapes to be used in the design were cut from the colored tissue and placed on the plastic for the desired arrangement.

The Liquitex Polymer Medium was applied to the plastic with a soft sable brush. Once the medium was spread, the tissue was placed upon it and adhered through the rubbing of the artist's finger over the surface of the tissue. Great care was exercised in this rubbing operation as the tissue, especially when wet, was very fragile and easily torn.

The tissue was applied to either the front or back of the plastic, depending upon the effect that was desired.

When placing one layer of tissue upon another, the first layer was allowed to become completely dry to assure even adherence.

It was advisable not to use more than four layers of tissue on any one side, since experience taught that more than four caused an uneven texture.

Once the tissue had thoroughly dried for a few hours, it was covered with the polymer medium as a varnish, or painted upon to add extra interest to the work.

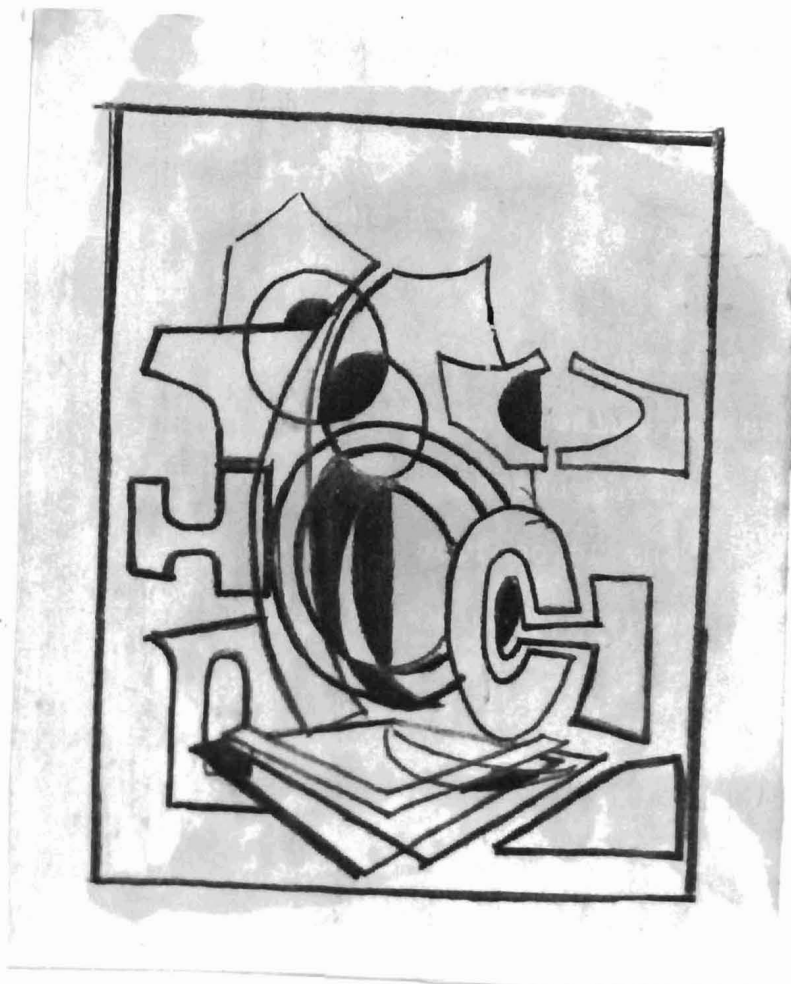


Figure 9. Preliminary sketch for Collage I.

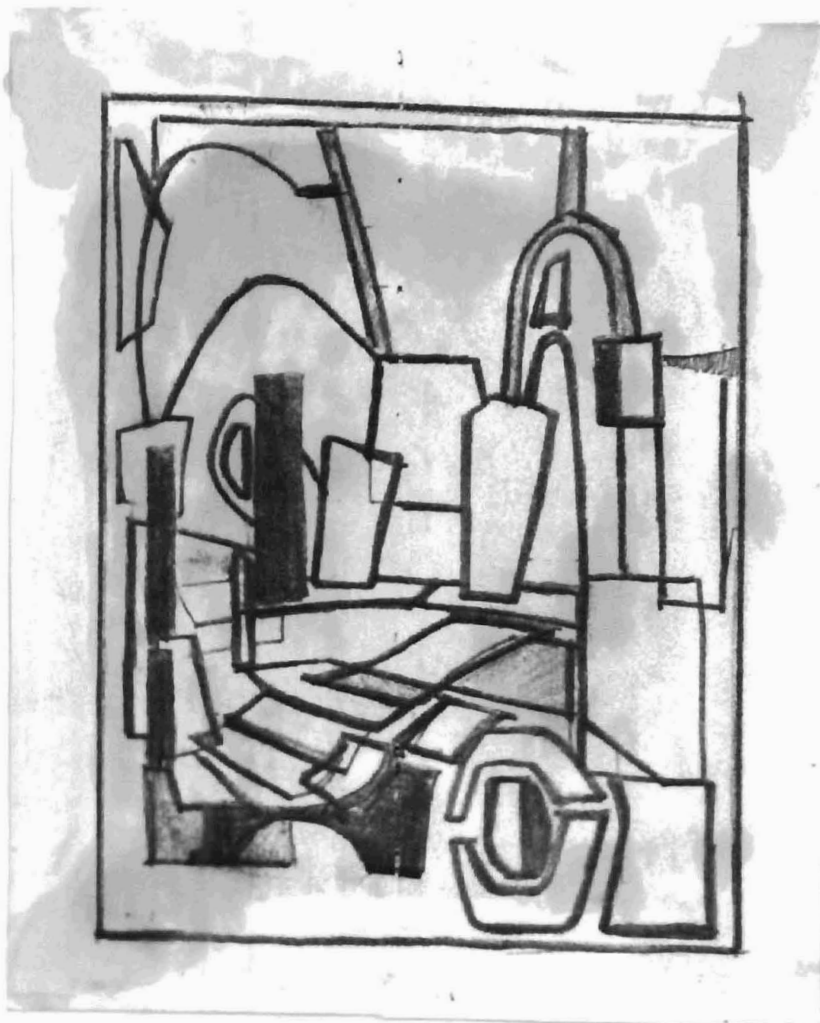


Figure 10. Preliminary sketch for Collage II.



Figure 11. Preliminary sketch for Collage III.

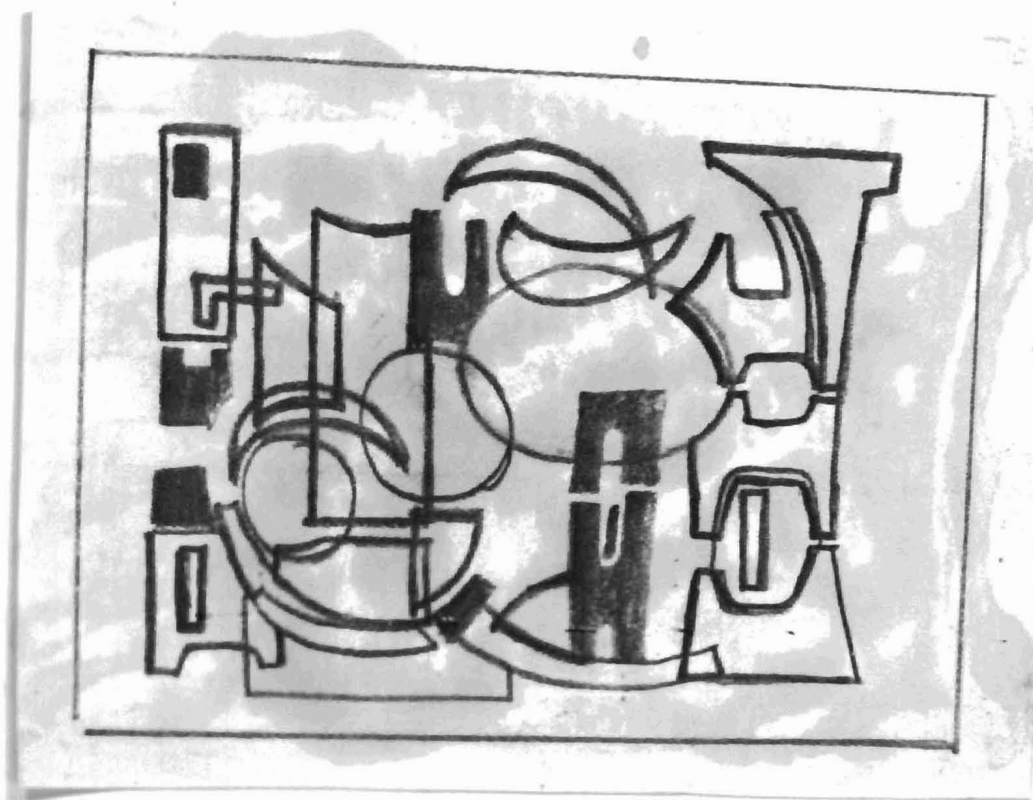


Figure 12. Preliminary sketch for Collage IV.

Where painting was decided upon, as it was in this project, the Liquitex Polymer paints in the jars did very nicely as they had both transparent and opaque possibilities.

The method of applying the paint was the same as painting on paper or canvas.

Once the paint was dry, the final work of assembling the collage in a frame with a white cardboard directly behind the plastic, or about one half of an inch from it, was completed. *previously: a quite ambiguous.*

The esthetic effect of the four completed collages was movement, light and lively color.

Many times the dark colors denoted a deep space, but in these collages, the darker the color, the more ambiguous the spatial effect became. The lighter colors, which usually came forward, seemed to recede into the distance and then, for an instant, came to the foreground. A great deal of the movement within the collages was due to the vibrant coloring of the tissue paper. At times the color seemed to reverberate within the borders of the work, rarely remaining in a stationary position. The placement of the white surface behind the plastic enhanced the varied spatial relationships within the collages because it reflected the vibrant light to the viewer.

This project, in comparison with all of the forms of stained glass, had a greater feeling of action, vitality

and depth. The only form of stained glass that can approach the qualities of the collage is concrete stained glass with its prismatic effect. Leaded and simulated stained glass are basically flat, lacking any great amount of action or depth. The concrete stained glass is not quite as flat, but because no overlapping of colors is practiced, the amount of movement is limited.

In the paintings of Irene Rice Pereira, space, as mentioned previously, is quite ambiguous. Movement through one of her works is constantly changing.

The collages of this project were a combination of the brilliant color of stained glass and the spatial relationships achieved by Miss Pereira.

The scope of possible arrangements of colored shapes or even layers of plastic within a frame are unlimited. Assuming the same materials are used, the only limitation of these collages is the artist's imagination.



Figure 13. Completed Collage I.



Figure 14. Completed Collage II.



Figure 15. Completed Collage III.

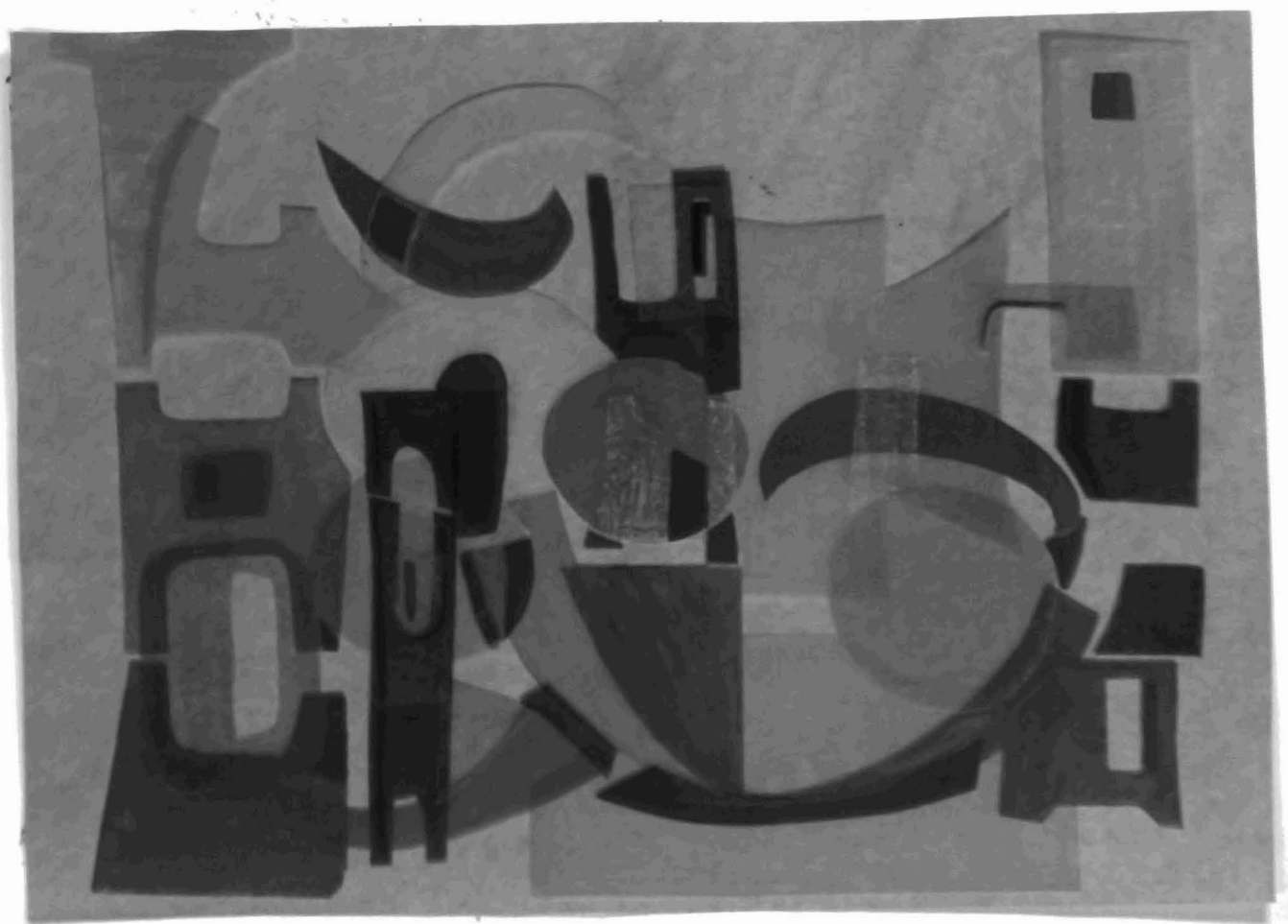


Figure 16. Completed Collage IV.

CHAPTER III

CONCLUSION

The purpose of this project was to produce four successful collages in which a three dimensional effect was achieved through the use of colored tissue paper and paint on clear plastic. Secondly, this thesis compared this process to the production of leaded and concrete stained glass, the Frengosi Method and the paintings on glass of I. Rice Pereira.

The comparison was achieved through the technical data presentation and the described differences between leaded and concrete stained glass, the Frengosi Method and the paintings of I. Rice Pereira. Each description, with the exception of that of Miss Pereira's paintings, was begun with a preliminary sketch carried to completion in a final drawing and then carried out in the media with which the artist worked.

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